

IN THE CLAIMS

1. (Currently amended) A method of routing traffic between first and second nodes in a network so as to provide protection against network failures, the method comprising the steps of:

routing units of traffic on corresponding sets of trunks connected between the first and second nodes such that the traffic is balanced between disjoint paths; and

implementing a restoration process for the traffic;

the first and second nodes being connected by first and second sets of trunks such that the nodes and sets of trunks form a ring having at least four trunks, the first set of trunks carrying traffic in a given direction from the first node to the second node and being associated with one of an upper portion and a lower portion of the four-trunk ring, the second set of trunks carrying traffic in the given direction from the first node to the second node and being associated with the other of the upper portion and the lower portion of the four-trunk ring, wherein each of the first and second sets of trunks includes a primary trunk and a backup trunk, both the primary trunk and the backup trunk of each of the first and second sets of trunks being configurable to carry traffic in the given direction from the first node to the second node;

a given one of the units of traffic comprising a unit of traffic to be transmitted in a the given direction from the first node to the second node utilizing one of the upper portion and the lower portion of the four-trunk ring;

wherein the first and second nodes are configured to perform, in conjunction with the restoration process for the given unit of traffic, span switching between the primary trunk and the backup trunk of the associated portion of the four-trunk ring.

2. (Previously presented) The method of claim 1 wherein the given unit of traffic comprises one or more OC-x units of traffic.

3. (Previously presented) The method of claim 1 wherein the restoration process utilizes a service layer switching process comprising a packet-based switching process.

4. (Previously presented) The method of claim 1 wherein the restoration process utilizes a service layer switching process comprising an Internet protocol (IP) switching process.

5. (Previously presented) The method of claim 1 wherein each of the trunks in a given set of trunks supports a designated portion of at least one of the units of traffic.

6. (Previously presented) The method of claim 1 wherein the units of traffic are routed such that a first half of the given one of the units of traffic is routed on the primary trunk, and a second half of the given unit is routed on the backup trunk, in the associated portion of the four-trunk ring.

7. (Original) The method of claim 6 wherein the restoration process is implemented using service layer switching.

8. (Canceled)

9. (Canceled)

10. (Previously presented) The method of claim 1 wherein the given unit of traffic is split equally between the primary trunk and the backup trunk of the associated upper or lower portion of the ring.

11. (Previously presented) The method of claim 1 wherein the given unit of traffic is routed entirely on the primary trunk of the associated upper or lower portion of the ring.

12. (Previously presented) The method of claim 1 wherein the ring comprises an IP/optical hybrid ring, and the restoration process is implemented using service layer switching.

13. (Previously presented) The method of claim 1 wherein the ring comprises a SONET/optical ring, and the restoration process is implemented using transport layer switching.

14. (Previously presented) The method of claim 1 wherein the first and second nodes comprise add-drop multiplexers connected by the sets of trunks, each of the add-drop multiplexers also being coupled to a corresponding router.

15. (Original) The method of claim 1 wherein the units of traffic are routed between the first and second nodes so as to provide an opportunity to implement an enhanced quality of service (QoS) for at least one of the units of traffic.

16. (Currently amended) An apparatus for routing traffic in a network so as to provide protection against network failures, the apparatus comprising:

first and second network nodes connected by sets of trunks, wherein units of traffic are each routed on a corresponding one of the sets of trunks such that the units of traffic are balanced between disjoint paths between the first and second nodes, the first and second nodes further being configured to implement a restoration process for the traffic;

the first and second nodes being connected by first and second sets of trunks such that the nodes and sets of trunks form a ring having at least four trunks, the first set of trunks carrying traffic in a given direction from the first node to the second node and being associated with one of an upper portion and a lower portion of the four-trunk ring, the second set of trunks carrying traffic in the given direction from the first node to the second node and being associated with the other of the upper portion and the lower portion of the four-trunk ring, wherein each of the first and second sets of trunks includes a primary trunk and a backup trunk, both the primary trunk and the backup trunk of each of the first and second sets of trunks being configurable to carry traffic in the given direction from the first node to the second node;

a given one of the units of traffic comprising a unit of traffic to be transmitted in a direction from the first node to the second node utilizing one of the upper portion and the lower portion of the four-trunk ring;

wherein the first and second nodes are configured to perform, in conjunction with the restoration process for the given unit of traffic, span switching between the primary trunk and the backup trunk of the associated portion of the four-trunk ring.

17. (Currently amended) An apparatus for routing traffic in a network so as to provide protection against network failures, the apparatus comprising:

a first network node, the first node being connectable to at least a second network node by sets of trunks, wherein units of traffic are each routed on a corresponding one of the sets of trunks such that the units of traffic are balanced between disjoint paths between the first and second nodes, the first node further being configured to implement at least a portion of a restoration process for the traffic;

the first and second nodes being connected by first and second sets of trunks such that the nodes and sets of trunks form a ring having at least four trunks, the first set of trunks carrying traffic in a given direction from the first node to the second node and being associated with one of an upper portion and a lower portion of the four-trunk ring, the second set of trunks carrying traffic in the given direction from the first node to the second node and being associated with the other of the upper portion and the lower portion of the four-trunk ring, wherein each of the first and second sets of trunks includes a primary trunk and a backup trunk, both the primary trunk and the backup trunk of each of the first and second sets of trunks being configurable to carry traffic in the given direction from the first node to the second node;

a given one of the units of traffic comprising a unit of traffic to be transmitted in a direction from the first node to the second node utilizing one of the upper portion and the lower portion of the four-trunk ring;

wherein the first and second nodes are configured to perform, in conjunction with the restoration process for the given unit of traffic, span switching between the primary trunk and the backup trunk of the associated portion of the four-trunk ring.